

WHAT IS CLAIMED IS:

1. A silver halide emulsion containing water,
dispersion medium and silver halide grains wherein the
dispersion medium comprising modified gelatin whose
5 amino group is chemically modified, and the silver
halide grains comprising spectrally sensitized silver
halide grains each having a multilayer adsorption of
dye chromophores on the surface thereof.

2. The silver halide emulsion according to
10 claim 1, wherein a ratio of the modified gelatin to
the dispersion medium is 5% or more.

3. The silver halide emulsion according to
claim 1, wherein the modified gelatin is gelatin to
which one carboxyl group (-COOH group) is introduced
15 when one amino acid group thereof is chemically
modified, and a chemical modification ratio of the
amino groups of the modified gelatin is 5% to 100%.

4. The silver halide emulsion according to
claim 1, wherein a variation coefficient of equivalent
20 circle diameters of all the silver halide grains is 40%
or less, and 70% or more of the total projected area of
the silver halide grains is occupied by the spectrally
sensitized silver halide grains each having a
multilayer adsorption of dye chromophores on the
25 surface thereof.

5. The silver halide emulsion according to
claim 1, wherein the average thickness of all the

silver halide grains contained in the silver halide emulsion is $0.2 \mu\text{m}$ or less.

5 6. The silver halide emulsion according to claim 1, wherein a content of Ca or Mg in the silver halide emulsion is 2×10^{-3} mol to 4×10^{-2} mol per mol of silver of the silver halide emulsion.

7. The silver halide emulsion according to claim 1, wherein at least one of the dye chromophores is a cationic sensitizing dye.

10 8. A method of preparing, in a reaction vessel, the silver halide emulsion according to claim 7, wherein the method comprises adding, to the reaction vessel, the cationic sensitizing dye in the form of water-based dispersion.

15 9. The method according to claim 8, wherein the water-based dispersion substantially not containing an anionic surfactant.

20 10. The method according to claim 8, wherein the water-based dispersion substantially not containing an organic solvent.

11. The method according to claim 8, wherein the concentration of the cationic sensitizing dye in the water-based dispersion is 1 wt% or more.

25 12. A method of preparing, in a reaction vessel, the silver halide emulsion according to claim 1, wherein the method comprises:

adding, to the reaction vessel, the modified

gelatin and

desalting a silver halide emulsion to which the modified gelatin is added,

5 wherein said adding the modified gelatin is conducted before said desalting.

13. A method of preparing, in a reaction vessel, the silver halide emulsion according to claim 1, wherein a content of an anionic surfactant in the reaction vessel immediately after the completion of
10 adding all the dye chromophores is 0.45 g or less per mole of silver of a silver halide emulsion contained in the reaction vessel.

14. The method according to claim 8, wherein the water-based dispersion containing an inorganic salt.

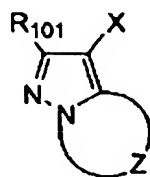
15 15. The method according to claim 8, wherein a silver amount of a silver halide emulsion in the reaction vessel at the time of adding the cationic sensitizing dye is 100 g/kg or more, and/or an amount of gelatin of the silver halide emulsion in the
20 reaction vessel at the time of adding the cationic sensitizing dye is 90 g/kg or less.

16. A silver halide photosensitive material containing, in a light-sensitive silver halide emulsion layer, the silver halide emulsion according to claim 1.

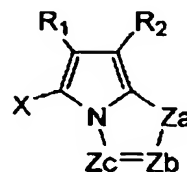
25 17. The silver halide photosensitive material according to claim 16, wherein the photosensitive material further containing a compound capable of

undergoing a one-electron oxidation to thereby form a one-electron oxidation product capable of releasing further one or more electrons.

18. The silver halide photosensitive material according to claim 16, wherein the photosensitive material further containing a compound represented by general formula (M) or general formula (U):



(M)



(U)

wherein in the general formula (M), R₁₀₁ represents a hydrogen atom or substituent; Z represents a nonmetallic atom group required to form a 5-membered azole ring containing 2 to 4 nitrogen atoms wherein the azole ring may have a substituent, including a condensed ring; and X represents a hydrogen atom or substituent; and

wherein in the general formula (U), Za represents -NH- or -CH(R₃)-; each of Zb and Zc independently represents -C(R₄)= or -N=; each of R₁, R₂ and R₃ independently represents an electron-withdrawing group having a Hammett substituent constant σ_p of 0.2 to 1.0; R₄ represents a hydrogen atom or substituent, when there are two or more R₄s in the general formula (U), these may be the same or different to each other; and X represents a hydrogen atom or substituent.